

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)
JESSE T. QUATSE ET AL.) ART UNIT: 3622
APPLICATION NUMBER: 10/616,486) EXAMINER: DANIEL LASTRA
FILED: JULY 8, 2003)
TITLE: HIGH-PRECISION CUSTOMER-)
BASED TARGETING BY INDIVIDUAL)
USAGE STATISTICS)
)

REPLY BRIEF

Mail Stop Appeal Brief - Patents
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Sir:

This Reply Brief constitutes a complete reply to the Examiner's Answer (the "Answer") mailed August 10, 2007 in the above-identified application in accordance with 37 C.F.R. §41.41. This Reply Brief relates to the appeal of the final rejection of claims 7-27. The time for filing a reply brief to the Answer expires on October 10, 2007. Accordingly, this Reply Brief is being timely filed on October 10, 2007.

TABLE OF CONTENTS

I.	FEDERAL CASES.....	3
II.	ARGUMENTS	4
A.	CLAIMS 7-12, 18 AND 23-27 ARE NOT ANTICIPATED UNDER 35 U.S.C. §102(E) BY <i>SRIDHAR ET AL.</i>	4
B.	CLAIMS 13-17 ARE NOT OBVIOUS UNDER 35 U.S.C. §103(A) BY <i>SRIDHAR ET AL.</i> IN VIEW OF <i>DEATON ET AL.</i>	11
C.	CLAIM 19 IS NOT OBVIOUS UNDER 35 U.S.C. §103(A) BY <i>SRIDHAR ET AL.</i>	12
III.	CONCLUSION	13

I. FEDERAL CASES

General Elec. Co. v. Nintendo Co., Ltd., 179 F.3d 1350 (Fed. Cir. 1999).....4, 9, 10
In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).....11, 12
In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970).....11, 12
PPG Indus., Inc. v. Guardian Indus. Corp., 75 F.3d 1558 (Fed. Cir. 1996).4, 9, 10

II. ARGUMENTS

The Arguments made in the Appeal Brief dated April 16, 2007 are hereby fully incorporated by reference.

A. **CLAIMS 7-12, 18 AND 23-27 ARE NOT ANTICIPATED UNDER 35 U.S.C. §102(e) BY SRIDHAR ET AL.**

A patent application is anticipated under 35 U.S.C. §102(e) if the invention was described in a published U.S. patent application, a PCT application designating the United States and published in English or a patent granted from a U.S. patent application that was filed by another before the invention by the applicant.¹ To anticipate a claim, a reference must disclose every element of the challenged claim and allow one skilled in the art to make the anticipating subject matter. See General Electric Co. v. Nintendo Co., Ltd., 179 F.3d 1350, 1356 (Fed. Cir. 1999); PPG Indus. v. Guardian Indus. Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996).

Independent Claim 23

Appellants dispute the appropriateness of this rejection under 35 U.S.C. §102(e). Appellants submit that independent claim 23 is not anticipated by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar et al. (Sridhar)* because *Sridhar* fails to disclose each and every limitation of claim 23. More particularly, *Sridhar* fails to disclose at least the following elements required by claim 23:

¹ 35 U.S.C. §102(e) states, “A person shall be entitled to a patent unless - ... (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.”

- “generating a plurality of scores for said plurality of customers, each said score being associated with one said customer and with one said offer, and each score measuring a probability that the associated customer will make a purchase in accordance with the associated offer;” and
- “identifying the highest score in said plurality of scores and identifying the customer substantially scoring the highest score.”

On page 14 of the Answer, the Examiner asserts the following:

Using Appellants’ figure 3 to interpret said [identifying] limitation, it can be seen in said Appellants’ figure 3 table a plurality of scores and a plurality of customers, however, the limitation “identifying the highest score in said plurality of scores and identifying the customer substantially scoring said highest score” does not recite if said identifying said highest score is done by finding the highest score by customer or by offer. This is an important distinction because finding the highest score by customer (*i.e.*, by row) would produce a different result than finding said highest score by offer (*i.e.*, by column).

Appellants submits that neither finding the highest score by customer (*i.e.*, by row) nor finding the highest score by offer (*i.e.*, by column) is disclosed by claim 23. The generating limitation of claim 23 requires “generating a plurality of scores for a plurality of customers.”

Figure 3 from Appellants’ application (reproduced below) provides a representative example of a plurality of scores for a plurality of customers, which will be used to further illustrate the meaning of claim 23 in comparison with the *Sridhar* system.

		OFFER PROBABILITY / SCORE			
		offer-1	offer-2	offer-3	offer-4
customer	customer-1	0.006	0.002	0.004	0.009
	customer-2	0.007	0.011	0.020	0.001
	customer-3	0.009	0.001	0.003	0.002
	customer-4	0.004	0.003	0.002	0.005

Figure 3

Appellants' claim 23 requires identifying the highest score in the plurality of scores. This differs substantially from the Examiner's interpretation of claim 23. Based on the Examiner's interpretation, the highest score must either be identified for a row (*i.e.*, offer 4 is the highest score for customer 4) or for a column (*i.e.*, customer 1 has the highest score for offer 4). However, this interpretation does not consider the plurality of scores, as required by claim 23. The term "the plurality of scores" in the identifying limitation refers back, by antecedent basis, to the generating limitation, which requires "generating a plurality of scores for a plurality of customers" (such as the scores in the entire table of Figure 3). Appellants submit that the highest score in the plurality of scores in the table of Figure 3 is offer 3 for customer 2 based on this proper interpretation.

Furthermore, claim 23 identifies the highest score in the plurality of scores and then identifies the customer substantially scoring such highest score (*i.e.*, customer 2). The offer corresponding to the highest score (*i.e.*, offer 3) can also only be identified after identifying the highest score in the plurality of highest scores, but such is not required by the identifying limitation of claim 23. In contrast, *Sridhar* requires identifying a customer and then identifying a highest score for such customer.

On pages 14 and 15 of the Answer, the Examiner resorts to the specification to determine the meaning of claim 23 and determines that Customer-Based targeting is the only embodiment that will be considered. Appellants submit that Customer-Based targeting, as described in the specification, does not perform the steps of claim 23. In particular, Customer-Based targeting does not identify the highest score in the plurality of scores (*i.e.*, in the entire table of Figure 3). Rather, Customer-Based targeting merely identifies the highest score pertaining to a single

customer. Resorting to the specification for a particular embodiment that does not perform the required limitations of claim 23 is improper.

On page 15 of the Answer, the Examiner asserts that *Sridhar* would populate a table similar to Appellants' specification figure 3 because *Sridhar* also teaches ranking offers to distribute to each subscriber from the largest to the lowest purchase prediction probability. However, *Sridhar* populates the table as each customer presents himself to the *Sridhar* system. This is because *Sridhar* does not require identifying the highest score in the plurality of scores, as described above, but merely the highest score for each customer. In contrast, claim 23 requires identifying the highest score in the plurality of scores.

On page 16 of the Answer, the Examiner asserts that "Appellants' claimed invention perform[s] said identifying the highest score by each subscriber (*i.e.*, by each row of Appellants' figure 3)." Appellants submit that this statement is incorrect based on the discussion above.

In light of the foregoing, *Sridhar* fails to disclose every element of claim 23, and, as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Claims 7-12 and 24-27 depend from claim 23 and thus contain all of the limitations of claim 23. Accordingly, Appellants request that the §102(e) rejections associated with claims 7-12 and 23-27 be withdrawn.

Dependent Claim 7

In addition to the arguments set forth above, when compared to dependent claim 7 of the present application, *Sridhar* fails to disclose, among other things, the following additional elements recited in claim 7:

- "providing a product grouping probability profile associating with each said product grouping a measure of the probability that a customer will purchase a product from said product grouping"; and

- “deriving said score for each said combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer.”

On pages 16 and 17 of the Answer, the Examiner asserts that paragraphs 0133-0135 of *Sridhar* disclose providing a product grouping probability profile. Appellants submit, however, that the cited paragraphs merely describe determining purchase predictions for individual products in a hierarchy. Although *Sridhar* refers to “product groups,” Appellants assert that this phrase has a different meaning than the “product grouping probability profile” required by claim 7.

As illustrated by Figure 4C in *Sridhar*, a purchase prediction is computed for products in a hierarchy by updating the node probability of the parent nodes. A product is selected from the hierarchy, and the probability associated with the parent node for this product is updated. The updating is repeated until the top node of the hierarchy is reached. As such, *Sridhar* merely teaches computing a purchase prediction for individual products based on their positions in a hierarchy.

In contrast, the claimed method provides product groupings and determines the probability of a customer purchasing a product from the product grouping. This is illustrated by Figure 6B of Appellants’ application, which is reproduced below.

SKU Grouping Probability Profile, Customer X							
SKU Grouping	...	32,37	33,36,42	34	35,36	37,32	...
Probability	...	0.5	0.75	0	0.75	0.5	...

Figure 6B

Figure 6B depicts product groupings based on SKU numbers. For example, the first product grouping contains the products represented by SKU numbers 32 and 37. The product grouping probability profile also includes the probability that a customer will purchase a product

from the product grouping. For example, referring to Figure 6B, the probability that Customer X will purchase a product from the product grouping {32, 37} is 0.5. In other words, the probability that at least one of SKU 32 and SKU 37 appears in the customer's market basket is 50%.

Sridhar merely teaches computing purchase predictions for individual products in a hierarchy, and does not teach determining the probability that at least one product in a product group is present. As such, *Sridhar* fails to disclose every element of claim 7, and does not render the present invention unpatentable under 35 U.S.C. §102(e). Accordingly, Appellants request that the §102(e) rejections associated with claim 7 be withdrawn.

Independent Claim 18

Appellants submit that independent claim 18 is not anticipated by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar* because *Sridhar* fails to disclose each and every element of claim 18. See General Elec. Co., 179 F.3d at 1356; PPG Indus., 75 F.3d at 1566. More particularly, Appellants submit that *Sridhar* fails to disclose, among other things, at least the following limitation required by claim 18:

- "providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer...."

On page 17 of the Answer, the Examiner asserts that *Sridhar* teaches a plurality of subscribers and targeting promotions to each subscriber of the plurality of subscribers. As discussed above with respect to claim 23, Appellants submit that *Sridhar* merely describes determining purchase predictions for an individual subscriber, and does not teach or disclose determining a plurality of purchase predictions for a plurality of subscribers.

For at least these reasons, *Sridhar* fails to disclose every element of claim 18, and, as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Accordingly, Appellants request that the §102(e) rejection associated with claim 18 be withdrawn.

Independent Claim 20

Appellants submit that independent claim 20 is not anticipated by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar* because *Sridhar* fails to disclose each and every element of claim 20. See General Elec. Co., 179 F.3d at 1356; PPG Indus., 753.d at 1566. More particularly, Appellants submits that *Sridhar* fails to disclose, among other things, at least the following limitation required by claim 20:

- “selecting for distribution to each customer the offers associated with the highest estimated probability which satisfy one or more constraints, wherein one of the one or more constraints is a limitation on the quantity of promotional offers for a particular product that may be distributed in aggregate to all customers...”

On page 18 of the Answer, the Examiner asserts that *Sridhar* teaches selecting the offers associated with the highest estimated probability as required by claim 20. Referring to Figure 3 above and the figure below, the claimed method provides an acceptance probability for each customer/offer combination, and, as such, is able to populate the chart illustrated in Figure 3. *Sridhar*, as illustrated by the Sridhar Chart, is merely able to populate one row of Figure 3, because *Sridhar* only determines a purchase prediction for an individual subscriber.

OFFER PROBABILITY / SCORE				
	offer-1	offer-2	offer-3	offer-4
customer-4	0.004	0.003	0.002	0.005

Sridhar Chart

As such, the system of *Sridhar* would select offer 4 for customer 4 because offer 4 has the highest purchase prediction (*i.e.*, 0.005) for customer 4. This is true despite the fact that customer 1 has a higher purchase prediction, and is therefore more likely to purchase the product. *Sridhar* does not teach selecting the offer having the highest estimated probability. Rather, *Sridhar* teaches selecting the offer having the highest estimated probability for a particular customer.

For at least these reasons, *Sridhar* fails to disclose every element of claim 20, and, as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Accordingly, Appellants request that the §102(e) rejection associated with claim 20 be withdrawn.

B. CLAIMS 13-17 ARE NOT OBVIOUS UNDER 35 U.S.C. §103(a) BY *SRIDHAR ET AL.* IN VIEW OF *DEATON ET AL.*

Appellants submit that claims 13-17 are nonobvious over *Sridhar* in view of *Deaton* because the cited references, whether taken alone or in combination, fail to teach or suggest each and every limitation of claims 13-17. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Page 19 of the Answer asserts that *Sridhar* teaches a system where each subscriber from a plurality of subscribers are targeted with a personalized offer list where each offer in the list is ranked and distributed to the subscriber according to the order of acceptance probability for the subscriber. The Answer has not raised any new or persuasive arguments showing how *Sridhar* and *Deaton* teach or suggest each and every limitation of claims 13-17. As such, Appellants direct the Board to the Appellants' Appeal Brief for arguments regarding claims 13-17, and request that the §103(a) rejections associated with claims 13-17 be withdrawn.

C. CLAIM 19 IS NOT OBVIOUS UNDER 35 U.S.C. §103(a) BY SRIDHAR ET AL.

Appellants submit that claim 19 is nonobvious over *Sridhar* because the cited reference fails to teach or suggest each and every limitation of claim 19. See *In re Royka*, 490 F.2d 981; *In re Wilson*, 424 F.2d at 1385.

The Answer has not raised any new or persuasive arguments showing how *Sridhar* teaches or suggests each and every limitation of claim 19. As such, Appellants direct the Board to the Appellants' Appeal Brief for arguments regarding claim 19, and request that the §103(a) rejection associated with claim 19 be withdrawn.

III. CONCLUSION

For the reasons set forth in the Appeal Brief and in this Reply Brief, Appellants requests reversal of the Examiner's rejections.

Appellants do not believe that an additional fee is required. In the event that an additional fee is required for this Reply Brief, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-0436. Please refund any overpayment to Deposit Account No. 50-0436.

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